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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION N
10/697,815	10/29/2003	John Trezza	4024-4043	9556
27123	7590	08/10/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			NGUYEN, PHILLIP	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/697,815

**Applicant(s)**

TREZZA ET AL.

**Examiner**

Phillip Nguyen

**Art Unit**

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/29/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "1910" has been used to designate both active region and Schottky contact in Fig. 19. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the

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specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claim recites “a substrate located between a second portion of Schottkey contact and the absorbing region” in which the support is not found in the specification. It is noted that the specification in column 5, paragraph 0065 of the application PGPub only support that “a Schottky contact 1910 can be placed on the back side of the substrate” which means that only one Schottky contact is taught.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 5 and 20 recite “Schottkey” which is incorrectly spelled and should be rewritten as --Schottky-- .

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

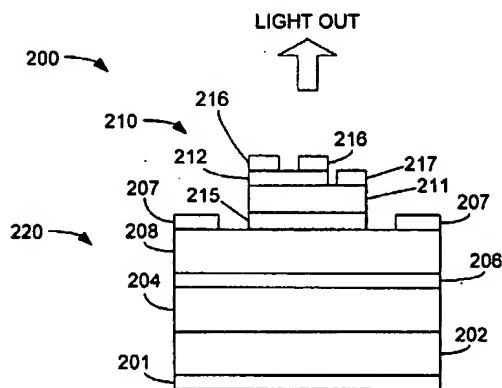
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-4, 6-7, 10-15 and 20-25 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Aronson et al. ('862).



**Fig. 3**

With respect to claim 1, Aronson discloses in Fig. 3 a laser-based device comprising a VCSEL-type laser having an active side 220 and a passive side 210 opposite the active side; and a photodetector 210 unit on the passive side, the photodetector unit comprising an absorbing region located so as to receive leakage photons exiting the laser through the passive side, and a

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"Schottkey" contact 212 having a first portion abutting the absorbing region (in the photodetector section) and through which a current, caused by absorption of the leakage photons in the absorbing, can be measured.

With respect to claims 2 and 4, Aronson discloses a substrate 202 abutting the active side.

With respect to claim 3, Aronson discloses an access way over at least a portion of the active side (window from 215) so that, when the laser emits light through the active side, the emission will pass through the access way.

With respect to claim 6, Aronson discloses the device is a top emitting laser.

With respect to claim 7, Aronson also discloses the laser could be bottom emitting one (col. 2, lines 59-63).

With respect to claims 10-11, Aronson discloses in active side comprising an active side mirror 104/204/304 for being p-type. However, Aronson also teaches p-type could be replaced with n-type (col. 11, lines 7-11) and the mirror consists AlGaAs.

With respect to claims 12 and 13, Aronson discloses the photodetector having absorbing region 215 being semiconductor material which is also considered as semi-insulating material comprising GaAs (AlGaAs).

Claims 20-24 further recite a method for performing by said device. Since Aronson discloses the product, it is inherent product by process for performing a method as recited in the claims.

5. Claim 1 is also rejected under 35 U.S.C. 102(b) as being anticipated by Lin et al ('712). Lin discloses in Fig. 2 a laser-based device comprising a VCSEL-type laser having an active side

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(top side) and a passive side (bottom) opposite the active side; and a photodetector 210 unit on the passive side, the photodetector unit comprising an absorbing region located so as to receive leakage photons exiting the laser through the passive side, and a "Schottkey" contact 212 having a first portion abutting the absorbing region (in the photodetector section) and through which a current, caused by absorption of the leakage photons in the absorbing, can be measured. It is inherent that the photodetector has at least an absorbing region to absorb photons before converting into electrical power.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. ('862) or Lin et al. ('712). Aronson and Lin both disclose the claimed invention except for explicitly teaching the active side mirror being doped with at least one of carbon, berrilium, or zinc and the passive side mirror being doped with at least one of silicon or tellurium. It is obvious and well known in the art by the time invention was made to provide the mirror of VCSEL with those dopants and material such as AlGaAs for DBR mirrors.

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7. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. ('862) in view of Lee et al. ('778). Aronson discloses the claimed invention except for further teaching an electronic circuit being hybridized to the laser. Lee discloses in Fig. 1 an integrated laser device including laser, photodiode, and also electronic circuit which is a transistor. For the improvement of the device, it would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide reduce the manufacturing cost as taught by Lee to Aronson.

#### ***Communication Information***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



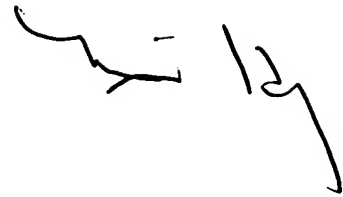
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Handwritten signature or initials in black ink, appearing to be 'MINSUN' followed by a stylized flourish.

MINSUN OH HARVEY  
PRIMARY EXAMINER